

Maryland. The members of this laboratory staff are now diligently working on investigations of procedure and methods of treatment that can be adopted for general use in war surgery.

As a result of the activities of the Section on Surgery of the Head, 568 officers have been assigned active duty in the National Army and the National Guard Cantonment Base Hospitals or are being given special training for service at home or abroad.

Effects of Submarine Duty on Personnel.—Assistant Surgeon WALTER W. CRESS, U. S. N. (*Military Surgeon*, xl, 699), considers the hygiene of the submarine an interesting field and observes the lack of available literature on the subject. He conducted observations on the ventilation of the submarine and on the effect of submarine duty on blood-pressure, weight and hearing of the crew. Bacteriological examinations of the air, under different conditions under which the submarine acts, showed the presence of far fewer bacteria than in that of dwellings and battleships, and the number of microorganisms was greatly reduced when the ventilation was at its poorest as compared with the number present when it was at its best. It is believed that this low content is due to the high humidity and the absence of dust particles and the aspirating action of the engines. Discomfort experienced while submerged greatly exceeds that experienced when running on the surface. This is due to the rise in humidity and temperature as a result of the rapid evaporation of the battery fluid and the higher speed of the dynamos. The fumes of unburned oil from the exhaust when charging the batteries is considered likely to give rise to a transitory albuminuria. While the number of blood-pressure readings was considered too small for the drawing of definite conclusions, it is believed that long, continuous duty on submarines is conducive to high blood-pressure. The cause is not determined, but may be due to strain, lack of exercise and overeating, excessive use of tobacco or coffee or fatigue. A small loss of weight was noted after long trips, but this is not attributed to submarine duty *per se*, as such usually occurs during the first few days at sea on any vessel. An occupational deafness occurs in many individuals on submarine duty as a result of the vibratory movements and noises and the conditions favorable for the production of epipharyngeal and middle-ear catarrh. It is advised that thorough examinations be made of men before they are assigned to submarine duty and that no man be accepted who has had syphilis or the sequelæ or complications of gonorrhea. M. J. R.

Smoke and Powder Gases in Naval Warfare.—Surgeon D. N. CARPENTER, U. S. N. (*Military Surgeon*, xxxix, 461), concludes that there is danger to the personnel in naval action from powder gases in the enemy's explosive shells. This danger is greater in closed gun compartments than in turrets, and the gases may be distributed to all parts of the ship through the ventilating system. Owing to the positive internal pressure of the turrets there is no contamination of the turret air from the ship's own gun-fire. Owing to the possibility of fires being started from shell impact and explosion there is danger from smoke gases. Perforated funnels, ventilators, etc., may cause smoke contamination of any part of the ship, with serious effect

on the personnel. The fire-room force is also exposed to possible contamination from the furnace fires and coal bunkers. To prepare for such danger it is advisable to provide a liberal supply of a simple type of respirator to be used in the gun compartments, handling rooms, fire and engine rooms, turrets, etc. Suitable helmets should be provided for the use of the repair party in fighting fires; additional electric fans and blowers should be placed in closed gun compartments to be used in emergency, and oxygen cylinders should be provided for the use of the medical department in cases of asphyxia. M. J. R.

The Lobar Pneumonia Problem in the Army.—Major HENRY J. NICHOLS, M. C., U. S. A. (*Military Surgeon*, xli, 149), considers lobar pneumonia an especially important disease among soldiers, and states that it is to be expected in large camps in the winter months. He reports an epidemic and states that some suggestions of progress were reached which should improve the method of handling pneumonia in the Army. Through the differentiation of types or strains of the pneumococcus it has been shown that the majority of cases of lobar pneumonia are due to the introduction from without of epidemic types of the organism. This has thrown light on baffling questions of epidemiology; it is now possible to trace the spread of infection by types and to detect infected contacts and "carriers." The question of preventive inoculation can be approached with some confidence in the reliability of type immune reactions. Inclusive evidence as to the value of specific serum heretofore has been due to the lack of knowledge concerning types. The use of type serum for a type infection has greatly reduced the mortality. Direct evidence of contagion has been demonstrated, based on the determination of types. Pneumonia is now classed with meningitis and diphtheria, with the same method of transmission and problem of prevention. If effective the use of vaccination for prevention is considered a far more promising measure than isolation. M. J. R.

Reorganization of the Civilian Hospital on a War Basis.—SMITH (*Modern Hospital*, October, 1917) states that although present plans do not contemplate the use of civil hospitals to any great extent by the Medical Department of the Army, except in the event of a great emergency, certain suggestions may be made to civil hospitals preparing to be of service during the war. They should offer to the Government as many beds as possible, but they should be actual beds, readily available, and in sufficient number to be worth consideration. The size of the staff should be cut to the minimum in order to release as many physicians as possible for military service. The intern service should be organized on a one-year basis, in order to comply with the official regulations. They should prepare for the release of as many nurses as possible. They should admit as large classes of nurses as possible and prepare, if the emergency should arise, to graduate at least a part of the senior class of nurses early. They should be prepared to train nurses' aids whenever called upon to do so.

W. H. F. A.